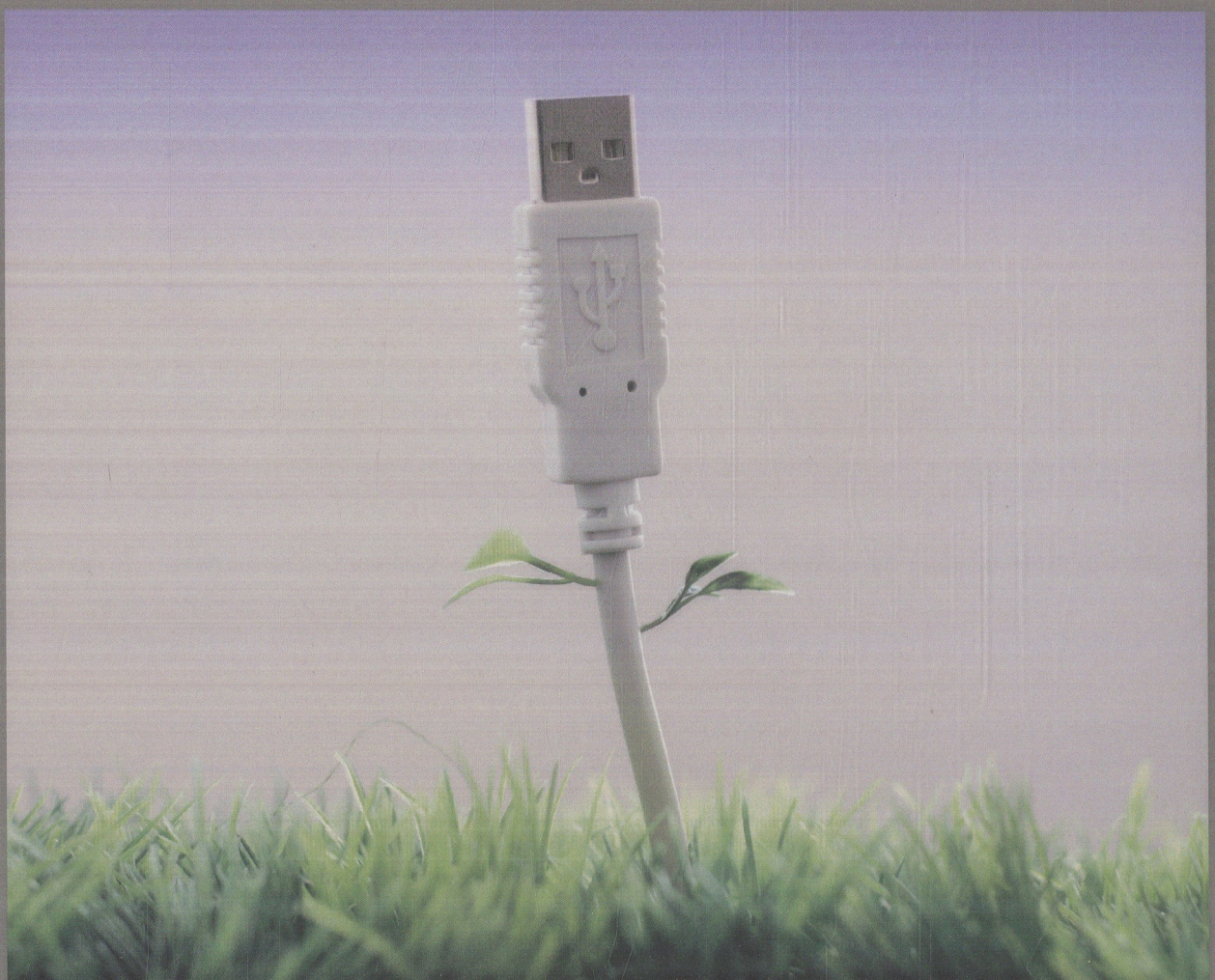


PREMIER REFERENCE SOURCE

Ontology Learning and Knowledge Discovery Using the Web

Challenges and Recent Advances



Wilson Wong, Wei Liu & Mohammed Bennamoun

Table of Contents

Foreword	xiii
Preface	xv
Acknowledgment.....	xviii

Section 1

Techniques for Ontology Learning and Knowledge Discovery

Chapter 1

Evidence Sources, Methods and Use Cases for Learning Lightweight Domain Ontologies.....	1
<i>Albert Weichselbraun, Vienna University of Economics and Business, Austria</i>	
<i>Gerhard Wohlgemant, Vienna University of Economics and Business, Austria</i>	
<i>Arno Scharl, MODUL University Vienna, Austria</i>	

Chapter 2

An Overview of Shallow and Deep Natural Language Processing for Ontology Learning.....	16
<i>Amal Zouaq, Simon Fraser University - Athabasca University, Canada</i>	

Chapter 3

Topic Extraction for Ontology Learning	38
<i>Marian-Andrei Rizoïu, University Lumière Lyon 2, France</i>	
<i>Julien Velcin, University Lumière Lyon 2, France</i>	

Chapter 4

A Cognitive-Based Approach to Identify Topics in Text Using the Web as a Knowledge Source.....	61
<i>Louis Massey, Royal Military College of Canada, Canada</i>	
<i>Wilson Wong, The University of Western Australia, Australia</i>	

Chapter 5

Named Entity Recognition for Ontology Population Using Background Knowledge from Wikipedia.....	79
<i>Ziqi Zhang, University of Sheffield, UK</i>	
<i>Fabio Ciravegna, University of Sheffield, UK</i>	

Chapter 6

User-Centered Maintenance of Concept Hierarchies.....	105
<i>Kai Eckert, University of Mannheim, Germany</i>	
<i>Robert Meusel, University of Mannheim, Germany</i>	
<i>Heiner Stuckenschmidt, University of Mannheim, Germany</i>	

Chapter 7

Learning SKOS Relations for Terminological Ontologies from Text	129
<i>Wei Wang, University of Nottingham Malaysia Campus, Malaysia</i>	
<i>Payam M. Barnaghi, University of Surrey, UK</i>	
<i>Andrzej Bargiela, University of Nottingham Jubilee Campus, UK</i>	

Section 2

Applications of Ontologies and Knowledge Bases

Chapter 8

Incorporating Correlations among Gene Ontology Terms into Predicting Protein Functions.....	154
<i>Pingzhao Hu, York University & University of Toronto, Canada</i>	
<i>Hui Jiang, York University, Canada</i>	
<i>Andrew Emili, University of Toronto, Canada</i>	

Chapter 9

GO-Based Term Semantic Similarity	174
<i>Marco A. Alvarez, Utah State University, USA</i>	
<i>Xiaojun Qi, Utah State University, USA</i>	
<i>Changhui Yan, North Dakota State University, USA</i>	

Chapter 10

Ontology Learning and the Humanities	186
<i>Toby Burrows, The University of Western Australia, Australia</i>	

Chapter 11

Ontology-Based Knowledge Capture and Sharing in Enterprise Organisations	200
<i>Aba-Sah Dadzie, University of Sheffield, UK</i>	
<i>Victoria Uren, University of Sheffield, UK</i>	
<i>Fabio Ciravegna, University of Sheffield, UK</i>	

Section 3

Emerging Trends in Ontology Learning and Knowledge Discovery

Chapter 12

Automated Learning of Social Ontologies	227
<i>Konstantinos Kotis, University of the Aegean, Greece</i>	
<i>Andreas Papasalouros, University of the Aegean, Greece</i>	

Chapter 13

Mining Parallel Knowledge from Comparable Patents	247
<i>Bin Lu, City University of Hong Kong, Hong Kong</i>	
<i>Benjamin K. Tsou, City University of Hong Kong & Hong Kong Institute of Education, Hong Kong</i>	
<i>Tao Jiang, ChiLin Star Corporation, China</i>	
<i>Jingbo Zhu, Northeastern University, China</i>	
<i>Oi Yee Kwong, City University of Hong Kong, Hong Kong</i>	

Chapter 14

Cross-Language Ontology Learning.....	272
<i>Hans Hjelm, alaTest.com, Sweden</i>	
<i>Martin Volk, University of Zurich, Switzerland</i>	

Compilation of References	298
---------------------------------	-----

About the Contributors	326
------------------------------	-----

Index.....	334
------------	-----